

CLAIMS:

1. A catalyst configuration, comprising:
  - a substrate;
  - an underlayer disposed on the substrate, the underlayer comprising a first catalyst composition; and
    - an overlayer disposed on a side of the underlayer opposite the substrate, wherein the overlayer comprises a second catalyst composition comprising greater than or equal to about 75% of Rh in the catalyst configuration.
2. The catalyst configuration of Claim 1, further comprising a trapping material.
3. The catalyst configuration of Claim 2, wherein the trapping material is selected from the group consisting of rare earths, alkaline earths, and alkali oxides, carbonates, alloys, and combinations comprising at least one of the foregoing trapping materials.
4. The catalyst configuration of Claim 1, wherein the underlayer and the overlayer comprise a metal selected from the group consisting of platinum, palladium, and alloys and combinations comprising at least one of the foregoing metals.
5. The catalyst configuration of Claim 1, wherein the overlayer comprises an outer portion disposed on a side opposite the underlayer, and wherein greater than or equal to about 75% of the Rh in the catalyst configuration is disposed in the outer portion.
6. The catalyst configuration of Claim 5, wherein the outer portion has a thickness of about 1 to about 30 micrometers.
7. The catalyst configuration of Claim 6, wherein the thickness is about 5 to about 15 micrometers.

8. The catalyst configuration of Claim 7, wherein the thickness is about 7 to about 12 micrometers.

9. The catalyst configuration of Claim 1, wherein the Rh is present in an amount of about 2 g/ft<sup>3</sup> to about 30 g/ft<sup>3</sup>.

10. The catalyst configuration of Claim 9, wherein the Rh is present in an amount of about 5 g/ft<sup>3</sup> to about 20 g/ft<sup>3</sup>.

11. The catalyst configuration of Claim 10, wherein the Rh is present in an amount of about 7 g/ft<sup>3</sup> to about 15 g/ft<sup>3</sup>.

12. The catalyst configuration of Claim 1, wherein a combined loading of the first catalyst composition and the second catalyst composition on the substrate is about 1 g/in<sup>3</sup> to about 10 g/in<sup>3</sup>.

13. The catalyst configuration of Claim 12, wherein the combined loading is about 2 g/in<sup>3</sup> to about 7 g/in<sup>3</sup>.

14. The catalyst configuration of Claim 13, wherein the combined loading is about 3 g/in<sup>3</sup> to about 5 g/in<sup>3</sup>.

15. A NO<sub>x</sub> adsorber comprising:

a housing concentrically disposed around a catalyst configuration comprising a substrate, an underlayer disposed on the substrate, the underlayer comprising a first catalyst composition, and an overlayer disposed on a side of the underlayer opposite the substrate, wherein the overlayer comprises a second catalyst composition comprising greater than or equal to about 75% of Rh in the catalyst configuration.

16. A method for reducing emissions, comprising:

contacting a gas stream with catalyst configuration comprising a substrate, an underlayer disposed on the substrate, the underlayer comprising a first catalyst composition, and an overlayer disposed on a side of the underlayer opposite the substrate, wherein the overlayer comprises a second catalyst composition comprising greater than or equal to about 75% of Rh in the catalyst configuration;

oxidizing NO in the gas to NO<sub>2</sub>;

adsorbing the NO<sub>2</sub>;

increasing a hydrocarbon concentration in the gas;

converting the NO<sub>2</sub> to N<sub>2</sub>; and

releasing the N<sub>2</sub>.